

Makita

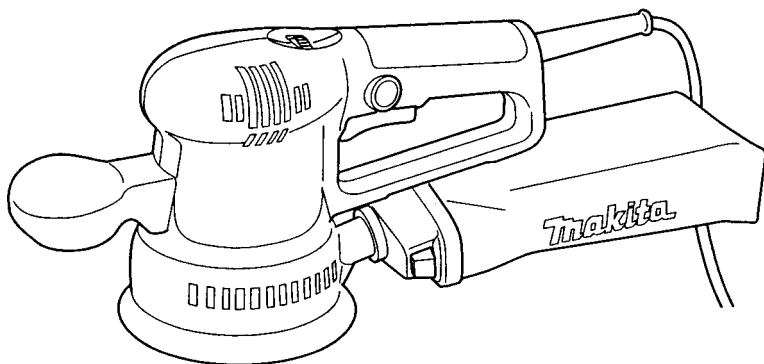
AMERICA

Random Orbit Sander

MODEL B05020

MODEL B05021

INSTRUCTION MANUAL



SPECIFICATIONS

MODEL	Pad size	Orbits per minutes	Dimensions (L x W x H)	Net weight
B05020	123 mm (4-13/16")	12,000	288 mm x 123 mm x 147 mm (11-11/32" x 4-13/16" x 5-11/16")	1.4 kg (3.1 lbs)
B05021		4,000 – 12,000		

*Manufacturer reserves the right to change specifications without notice.

* Note: Specifications may differ from country to country.

WARNING: For your personal safety, READ and UNDERSTAND before using.

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.

GENERAL SAFETY RULES

(For All Tools)

WARNING! Read and understand all instructions. Failure to follow all instructions listed below, may result in electric shock, fire and/or serious personal injury.


SAVE THESE INSTRUCTIONS

READ ALL INSTRUCTIONS.

WORK AREA

1. **Keep your work area clean and well lit.** Cluttered benches and dark areas invite accidents.
2. **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.** Power tools create sparks which may ignite the dust or fumes.
3. **Keep bystanders, children, and visitors away while operating a power tool.** Distractions can cause you to lose control.

ELECTRICAL SAFETY

4. **Double Insulated tools are equipped with a polarized plug (one blade is wider than the other.) This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install a polarized outlet. Do not change the plug in any way.** Double insulation  eliminates the need for the three wire grounded power cord and grounded power supply system.
5. **Avoid body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is grounded.
6. **Don't expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
7. **Do not abuse the cord. Never use the cord to carry the tools or pull the plug from an outlet. Keep cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately.** Damaged cords increase the risk of electric shock.
8. **When operating a power tool outside, use an outdoor extension cord marked "W-A" or "W."** These cords are rated for outdoor use and reduce the risk of electric shock.

PERSONAL SAFETY

9. **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use tool while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating power tools may result in serious personal injury.
10. **Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry or long hair can be caught in moving parts.

11. **Avoid accidental starting. Be sure switch is off before plugging in.** Carrying tools with your finger on the switch or plugging in tools that have the switch on invites accidents.
12. **Remove adjusting keys or switches before turning the tool on.** A wrench or a key that is left attached to a rotating part of the tool may result in personal injury.
13. **Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enables better control of the tool in unexpected situations.
14. **Use safety equipment. Always wear eye protection.** Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.

TOOL USE AND CARE

15. **Use clamps or other practical way to secure and support the workpiece to a stable platform.** Holding the work by hand or against your body is unstable and may lead to loss of control.
16. **Do not force tool. Use the correct tool for your application.** The correct tool will do the job better and safer at the rate for which it is designed.
17. **Do not use tool if switch does not turn it on or off.** Any tool that cannot be controlled with the switch is dangerous and must be repaired.
18. **Disconnect the plug from the power source before making any adjustments, changing accessories, or storing the tool.** Such preventive safety measures reduce the risk of starting the tool accidentally.
19. **Store idle tools out of reach of children and other untrained persons.** Tools are dangerous in the hands of untrained users.
20. **Maintain tools with care. Keep cutting tools sharp and clean.** Properly maintained tools, with sharp cutting edges are less likely to bind and are easier to control.
21. **Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tools operation. If damaged, have the tool serviced before using.** Many accidents are caused by poorly maintained tools.
22. **Use only accessories that are recommended by the manufacturer for your model.** Accessories that may be suitable for one tool, may become hazardous when used on another tool.

SERVICE

23. **Tool service must be performed only by qualified repair personnel.** Service or maintenance performed by unqualified personnel could result in a risk of injury.
24. **When servicing a tool, use only identical replacement parts. Follow instructions in the Maintenance section of this manual.** Use of unauthorized parts or failure to follow Maintenance Instructions may create a risk of electric shock or injury.








Specific Safety Rules

1. Hold the tool firmly.
2. Do not leave the tool running. Operate the tool only when hand-held.
3. This tool has not been waterproofed, so do not use water on the workpiece surface.
4. Ventilate your work area adequately when you perform sanding operations.

SAVE THESE INSTRUCTIONS.

SYMBOLS

The followings show the symbols used for tool.

V	.....	volts
A	.....	amperes
Hz	.....	hertz
kg	.....	kilograms
h	.....	hours
min	.....	minutes
s	.....	seconds
	.....	alternating current
	.....	direct current
n_0	.....	no load speed
	.....	alternating or direct current
	.....	Class II Construction
	.....	splash-proof construction
	.....	watertight construction
.../min	.....	revolutions or reciprocation per minute
	.....	number of blow

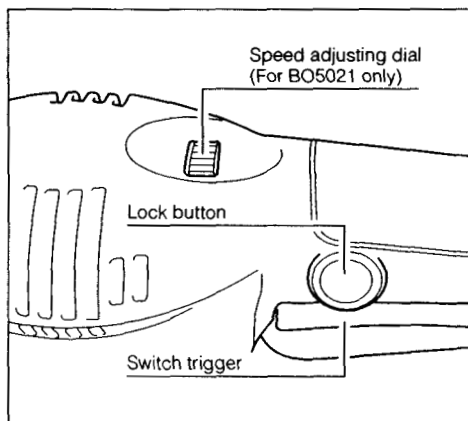
FUNCTIONAL DESCRIPTION

Switch action

CAUTION:

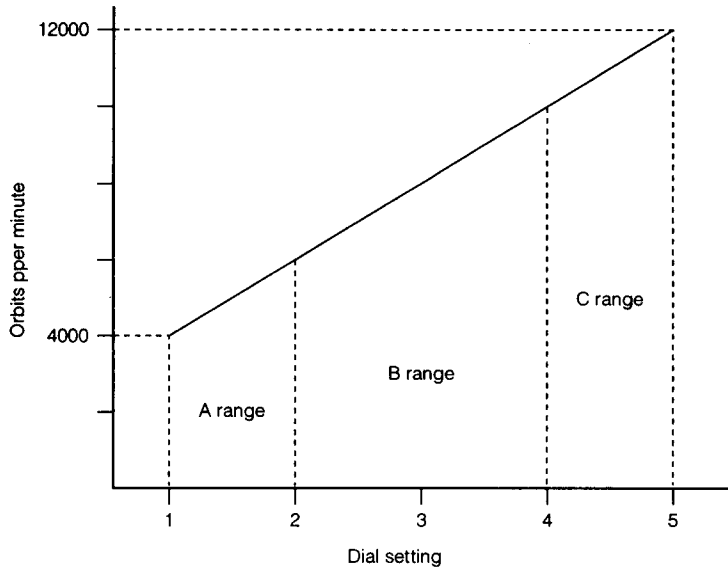
Before plugging in the tool, always check to see that the switch trigger actuates properly and returns to the "OFF" position when released.

To start the tool, simply pull the trigger. Release the trigger to stop. For continuous operation, pull the trigger and then push in the lock button. To stop the tool from the locked position, pull the trigger fully, then release it.



Speed adjusting dial
For BO5021 only

The tool speed can be infinitely adjusted between 4,000 opm and 12,000 opm by turning the speed adjusting dial, which is marked 1 to 5. Higher speed is obtained when the dial is turned in the direction of number 5; lower speed is obtained when it is turned in the direction of number 1. Refer to the figure below for the relationship between the number settings on the adjusting dial and the kind of work.

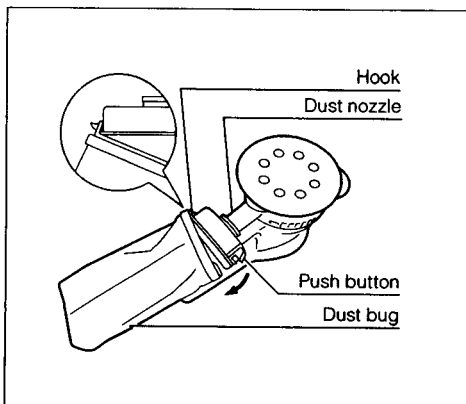
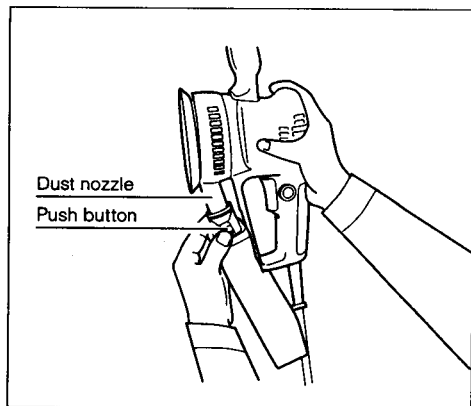


- A range: For polishing
- B range: For finish sanding
- C range: For regular sanding

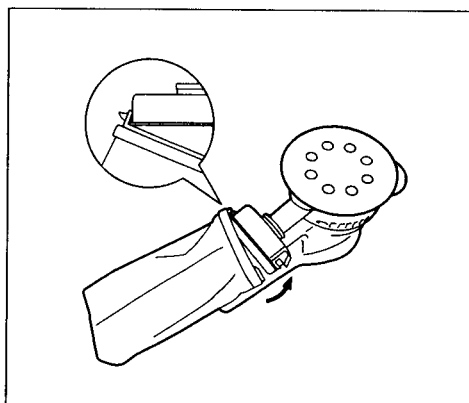
NOTE:
The above figure shows standard applications. They may differ under certain conditions.

Emptying dust bag

When the dust bag is about half full, switch off and unplug the tool. Hold the tool and remove the dust bag from the dust nozzle while pressing the push button.



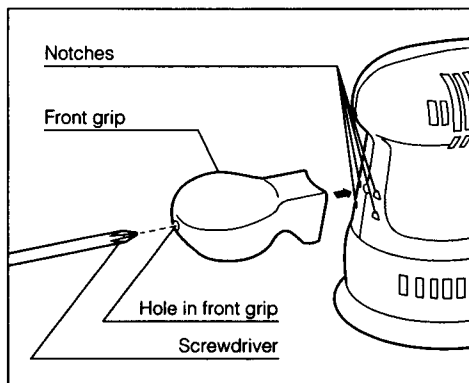
After emptying the dust bag, insert the hook on the dust nozzle into the rectangular hole on one side of the dust bag frame and push up the dust bag frame until it clicks into place on the push button.



ASSEMBLY

Front grip

Install the front grip on the tool so that its protrusions fit into the matching notches in the front of the tool. Secure the front grip using a screwdriver to tighten the screw through the hole in the front grip.

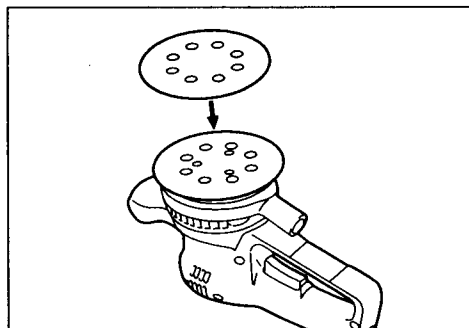


Installing or removing abrasive disc

CAUTION:

Always be sure that the tool is switched off and unplugged before installing or removing the disc.

To install the abrasive disc, first remove all dirt or foreign matter from the pad. Then attach the abrasive disc to the pad, using the hook-and-loop system of the abrasive disc and the pad. Be careful to align the holes in the abrasive disc with those in the pad.

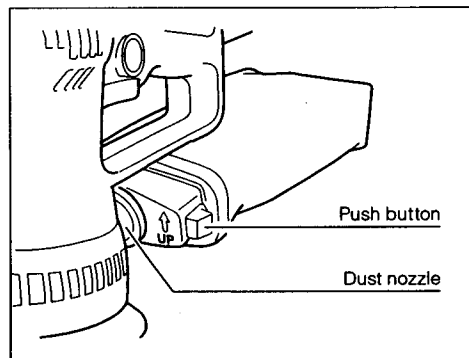


CAUTION:

Always use hook-and-loop system abrasive discs. Never use pressure-sensitive abrasive discs.

Installing dust bag

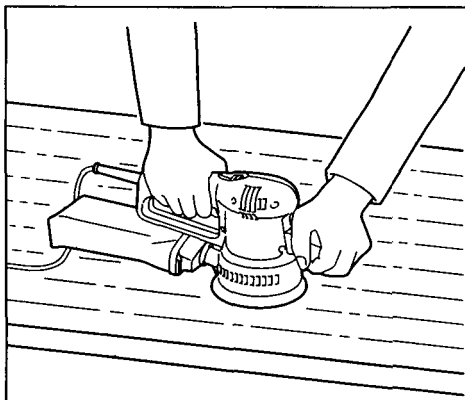
Install the dust bag on the tool so that the arrow with "UP" indicated on the dust nozzle points upward.



OPERATION

Sanding operation

Turn the tool on and wait until it attains full speed. Then gently place the tool on the workpiece surface. Keep the pad flush with the workpiece and apply slight pressure on the tool.



CAUTION:

- Never run the tool without the abrasive disc. You may seriously damage the pad.
- Never force the tool. Excessive pressure may decrease the sanding efficiency, damage the abrasive disc or shorten tool life.

Polishing operation

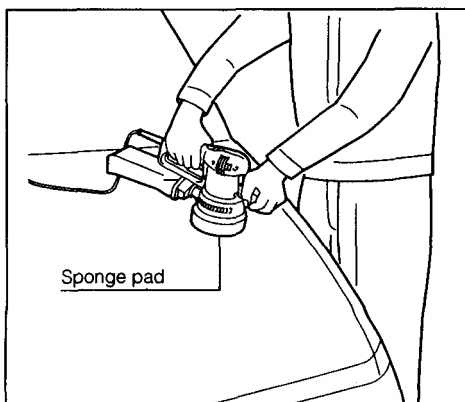
For BO5021 only

CAUTION:

- Use only a Makita genuine sponge pad, felt pad or wool pad (optional accessories).
- Always operate the tool at low speed to prevent work surfaces from heating abnormally.
- Never force the tool. Excessive pressure may decrease the polishing efficiency and cause motor overload, resulting in tool malfunction.

Applying wax

Use an optional sponge pad. Apply wax to the sponge pad or work surface. Run the tool at low speed to smooth out wax.

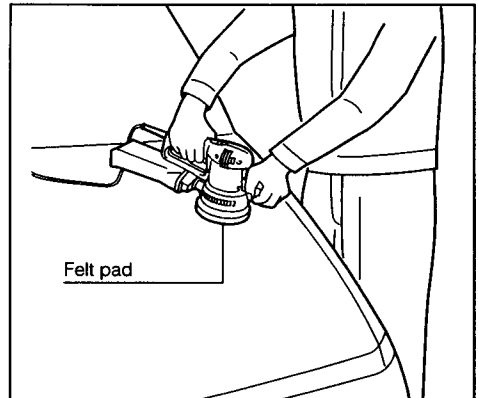


NOTE:

- First, wax a not conspicuous portion of the work surface to make sure that the tool will not scratch the surface or result in uneven waxing.
- Always run the tool at low speed. Running it at high speed may cause the wax to spatter.

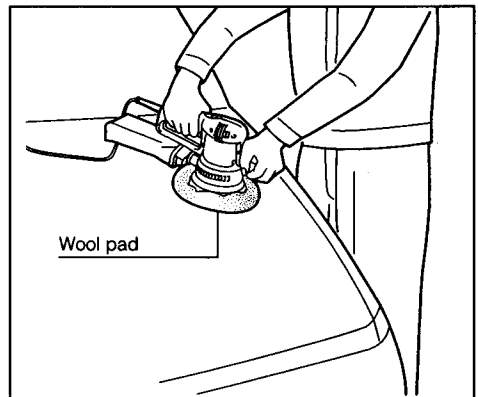
Removing wax

Use an optional felt pad. Run the tool at low speed to remove wax.



Polishing

Use an optional wool pad. Run the tool at low speed and apply the wool pad gently to the work surface.



MAINTENANCE

CAUTION:

Always be sure that the tool is switched off and unplugged before attempting to perform inspection or maintenance.

To maintain products SAFETY and RELIABILITY, repairs, any other maintenance or adjustment should be performed by Makita Authorized or Factory Service Centers, always using Makita replacement parts.

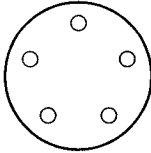
ACCESSORIES

CAUTION:

These accessories or attachments are recommended for use with your Makita tool specified in this manual. The use of any other accessories or attachments might present a risk of injury to persons. The accessories or attachments should be used only in the proper and intended manner.

• Hook-and-loop system abrasive disc

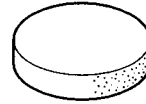
(Hook & loop backing and pre-punched holes)



Qty. per Pkg.	Grit	Part No.
5	# 60	794518-8
	# 80	794519-6
	# 100	794523-A
	# 120	794520-1
	# 180	794521-9
	# 240	794522-7
	# 320	742526-A
50	# 400	742527-A
	# 60	794518-8-50
	# 80	794519-6-50
	# 100	794523-A-50
	# 120	794520-1-50
	# 180	794521-9-50
	# 240	794522-7-50
	# 320	792526-A-50
	# 400	792527-A-50

• Hook-and-loop system sponge pad

(For BO5021 only) Use at low speed
Part No.794558-6



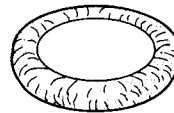
• Hook-and-loop system wool pad

(For BO5021 only) Use at low speed
Part No.794560-9

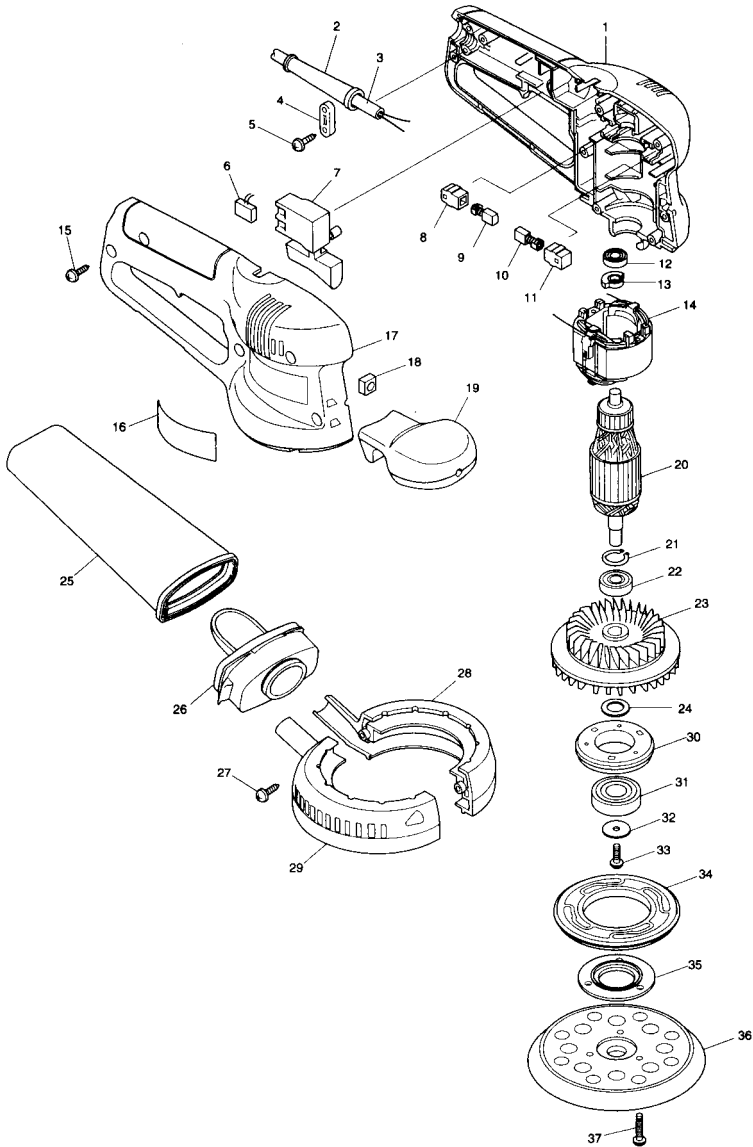


• Hook-and-loop system felt pad

(For BO5021 only) Use at low speed
Part No. 794559-4



RANDOM ORBIT SANDER Model BO5020

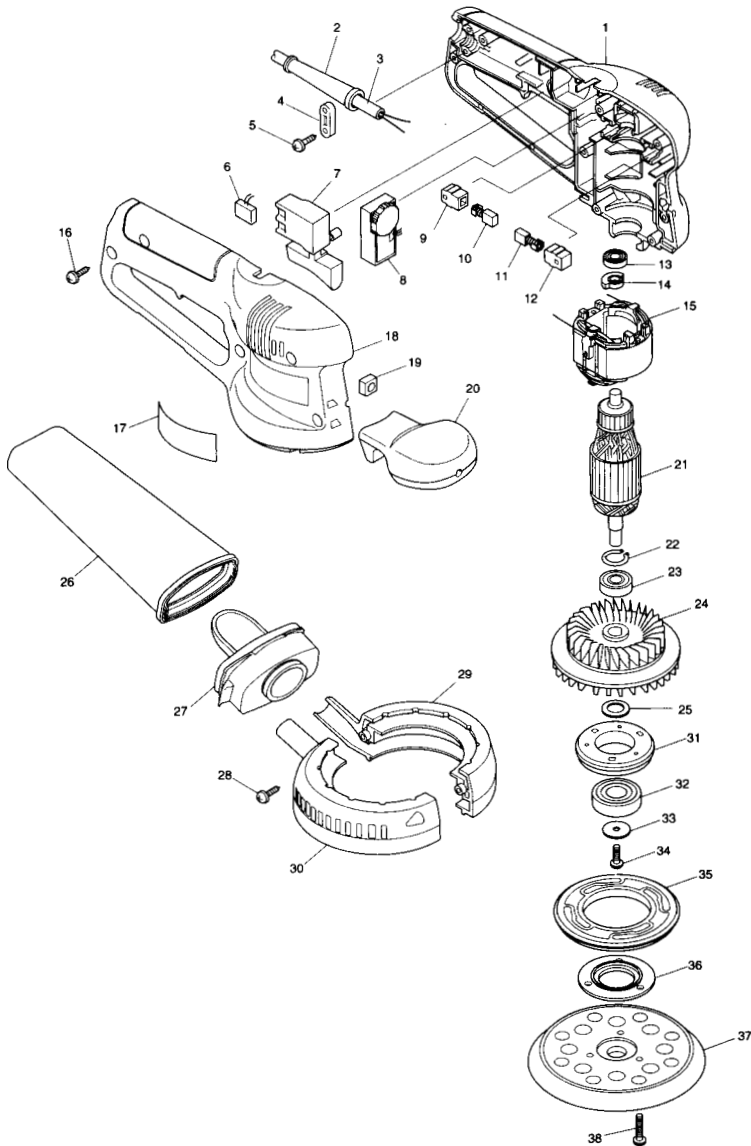


Note: The switch and other part configurations may differ from country to country.

ITEM NO.	NO. USED	DESCRIPTION	ITEM NO.	NO. USED	DESCRIPTION
MACHINE			MACHINE		
1	1	Housing Set (With Item 17)	21	1	Stop Ring E--9
2	1	Cord Guard	22	1	Ball Bearing 6000DDU
3	1	Cord	23	1	Fan 88
4	1	Strain Relief	24	1	Thin Washer 15
5	2	Tapping Screw 4x18	25	1	Dust Bag
7	1	Switch	26	1	Dust Nozzle
8	1	Brush Holder	27	2	Tapping Screw 4x18
9	1	Carbon Brush	28	1	Skirt Set (With Item 29)
10	1	Carbon Brush	29	1	Skirt Set (With Item 28)
11	1	Brush Holder	30	1	Bearing Box
12	1	Ball Bearing 607DDW	31	1	Ball Bearing 6002DDW
13	1	Counter Weight	32	1	Flat Washer 4
14	1	Field	33	1	Pan Head Screw M4x12
15	8	Tapping Screw 4x18	34	1	Brake Ring
16	1	Name Plate	35	1	Bearing Box Cover
17	1	Housing Set (With Item 1)	36	1	Pad 123
18	1	Square Nut M5	37	3	Pan Head Screw M4x16
19	1	Front Grip			
20	1	ARMATURE ASSEMBLY (With Item 12, 13, 21 & 22)			

Note: The switch and other part specifications may differ from country to country.

RANDOM ORBIT SANDER Model BO5021



Note: The switch and other part configurations may differ from country to country.

ITEM NO.	NO. USED	DESCRIPTION	ITEM NO.	NO. USED	DESCRIPTION
MACHINE			MACHINE		
1	1	Housing Set (With Item 18)	21	1	ARMATURE ASSEMBLY
2	1	Cord Guard			(With Item 13, 14, 22 & 23)
3	1	Cord	22	1	Stop Ring E—9
4	1	Strain Relief	23	1	Ball Bearing 6000DDU
5	2	Tapping Screw 4x18	24	1	Fan 88
7	1	Switch	25	1	Thin Washer 15
8	1	Controller	26	1	Dust Bag
9	1	Brush Holder	27	1	Dust Nozzle
10	1	Carbon Brush	28	2	Tapping Screw 4x18
11	1	Carbon Brush	29	1	Skirt Set (With Item 30)
12	1	Brush Holder	30	1	Skirt Set (With Item 29)
13	1	Ball Bearing 607DDW	31	1	Bearing Box
14	1	Counter Weight	32	1	Ball Bearing 6002DDW
15	1	Field	33	1	Flat Washer 4
16	8	Tapping Screw 4x18	34	1	Pan Head Screw M4x12
17	1	Name Plate	35	1	Brake Ring
18	1	Housing Set (With Item 1)	36	1	Bearing Box Cover
19	1	Square Nut M5	37	1	Pad 123
20	1	Front Grip	38	3	Pan Head Screw M4x16

Note: The switch and other part specifications may differ from country to country.

MAKITA LIMITED ONE YEAR WARRANTY

Warranty Policy

Every Makita tool is thoroughly inspected and tested before leaving the factory. It is warranted to be free of defects from workmanship and materials for the period of ONE YEAR from the date of original purchase. Should any trouble develop during this one-year period, return the COMPLETE tool, freight prepaid, to one of Makita's Factory or Authorized Service Centers. If inspection shows the trouble is caused by defective workmanship or material, Makita will repair (or at our option, replace) without charge.

This Warranty does not apply where:

- repairs have been made or attempted by others;
- repairs are required because of normal wear and tear;
- The tool has been abused, misused or improperly maintained;
- alterations have been made to the tool.

IN NO EVENT SHALL MAKITA BE LIABLE FOR ANY INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES FROM THE SALE OR USE OF THE PRODUCT. THIS DISCLAIMER APPLIES BOTH DURING AND AFTER THE TERM OF THIS WARRANTY.

MAKITA DISCLAIMS LIABILITY FOR ANY IMPLIED WARRANTIES, INCLUDING IMPLIED WARRANTIES OF "MERCHANTABILITY" AND "FITNESS FOR A SPECIFIC PURPOSE," AFTER THE ONE-YEAR TERM OF THIS WARRANTY.

This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you.

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